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business flying

1982 — Section 3

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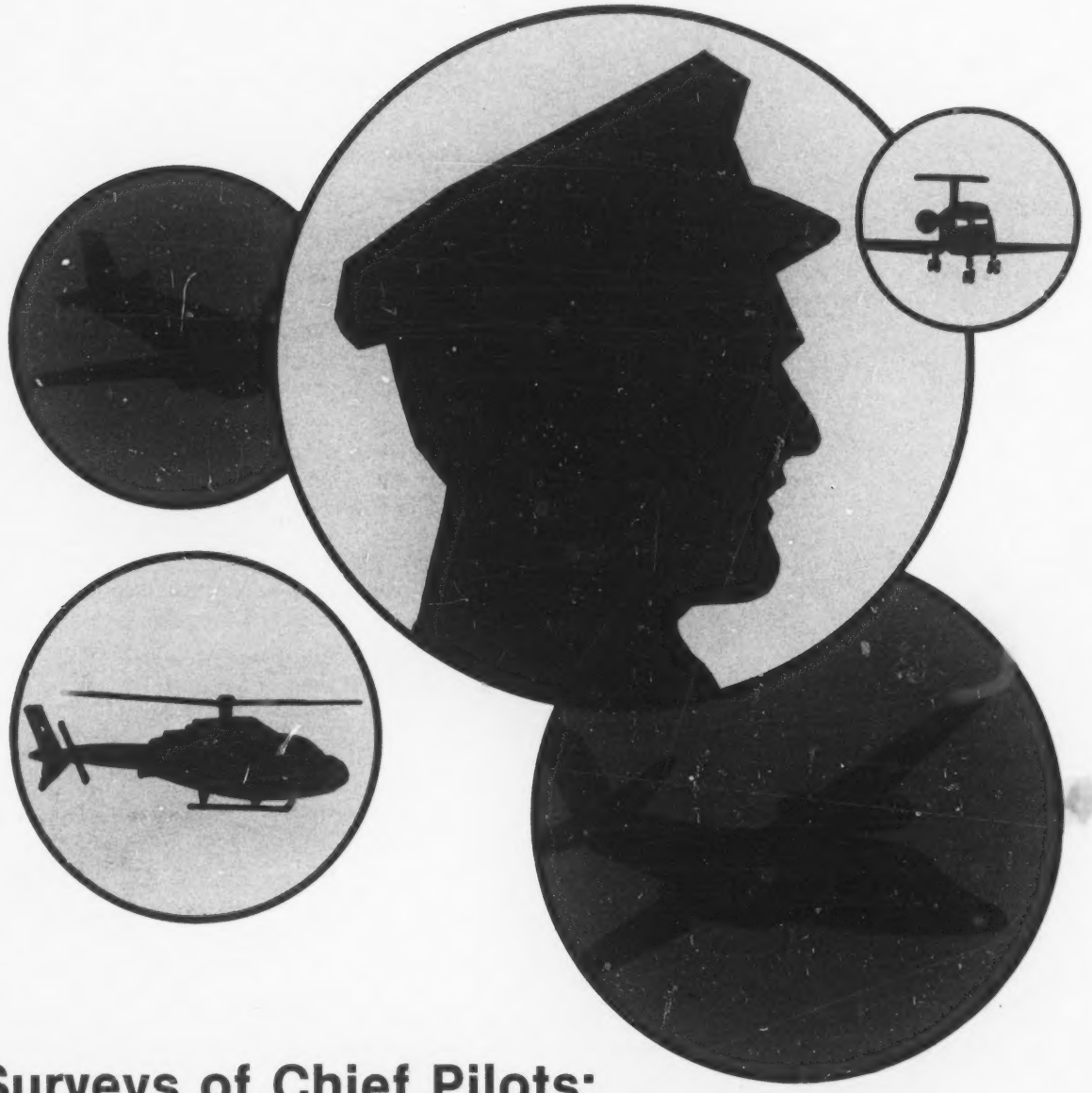

Surveys of Chief Pilots: A Comparison, 1978, 1982.

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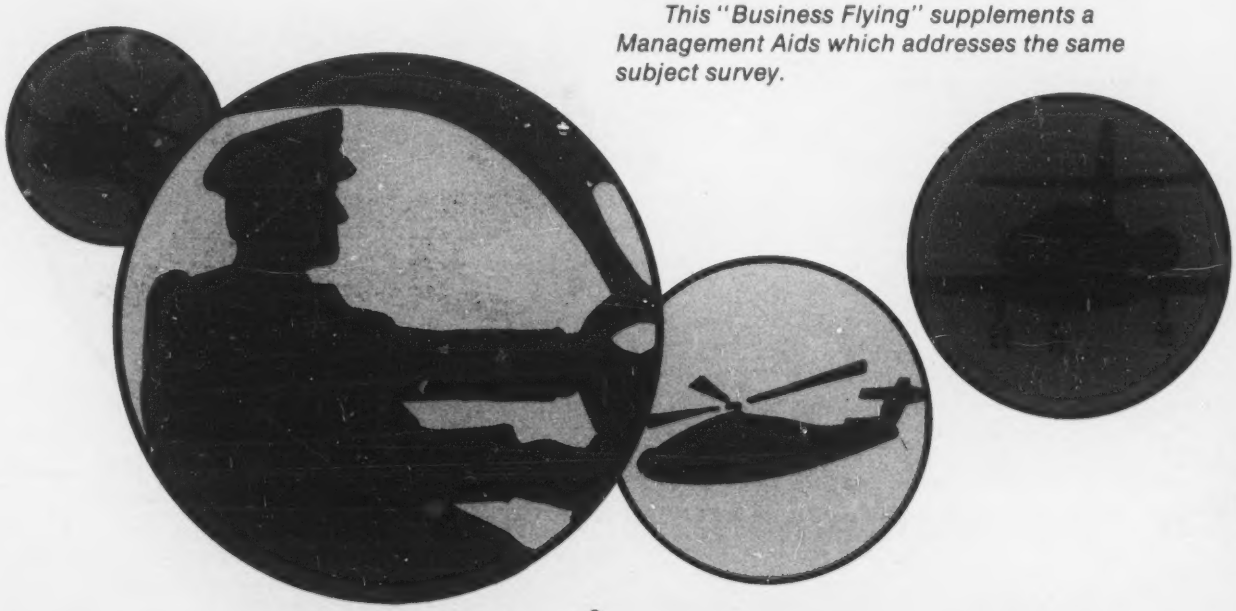
Introduction

There are surveys and there are surveys. Some surveys are priceless, some worthless. When a survey is done for the Wall Street Journal and tabulations are made from the answers of 1,011 chief pilots and aviation department managers, the results bear special notice. The Wall Street Journal, had the survey conducted as a tool for the "Journal's" marketing department. Most of those who answered were National Business Aircraft Association (NBAA) members. The others were members of the Helicopter Association International (HAI).

The Wall Street Journal had a similar survey conducted five years ago in 1978. At that time 694 chief pilots, all NBAA members, answered the questions. Many of the same questions were asked in 1982. This issue of Business Flying will compare the two survey years, where possible, to indicate trends and substantiate pertinent statistics about business aviation.

The amount of data gathered and the time period between surveys lend credence to the accuracy of results, especially when definite similarities and trends are apparent in the two surveys taken five years apart. The figures remain remarkably constant in many instances in the two surveys despite the specific accounting for helicopters in the 1982 survey.

This "Business Flying" supplements a Management Aids which addresses the same subject survey.



Current Inventory

A comparison of current inventory for the two survey years is shown as follows:

	1978 % Companies	1982 % Companies
Jets	55.9	57.0
Turboprops	45.5	51.4
Multi-engine piston	37.8	25.0
Single-engine piston	17.3	13.0
Helicopters	13.1	18.0

The number of survey companies, columns one and three, that operate jets remained fairly constant, increasing only 1.1 percent from 55.9 in 1978 to 57.0 percent in 1982. Those who operate turboprops increased 5.9 percent from 45.5 to 51.4 percent. Multi-engine piston aircraft declined in the same period by 12.8 percent from 37.8 to 25.0 percent. Those who operate single-engine piston aircraft also declined slightly in the five year period from 17.3 to 13.0 percent. Those who operate helicopters increased by almost five percent in the period from 13.1 to 18.0 percent.

Acquisition Plans

Acquisition plans in the year of 1978 and 1982 follow:

	1978 (%)	1982 (%)
Will obtain aircraft in next two years	45.7	41.0
Fixed wing	90.0	93.7
Jets	66.0	63.0
Turboprops	24.0	33.0
Single-engine piston	5.7	2.9
Multi-engine piston	13.6	8.7
Helicopters	9.5	19.0

Acquisition plans are similar in the two survey years except for turboprops and helicopters. Both of these types of aircraft have improved in popularity as business aircraft in the past five years. Some of the increase in helicopter figures is due to the specific questioning of helicopter operators this time.

The 1982 survey states that most fixed wing aircraft are apt to be replacements while helicopter acquisitions are new additions.

Recent acquisitions in 1982 show that half of the fixed wing buyers chose jets, one-third chose turboprops and almost 15 percent chose piston-powered aircraft. This compares with the 1978 fixed wing figures of 42 percent for jets, 28 percent for turboprops and 26 percent for piston-powered aircraft.

Those who planned to acquire aircraft in the next two years as opposed to those who did not plan to acquire an aircraft tallied as follows:

	1978	1982
Yes (%)	45.7	41.0
No (%)	18.9	27.0
Uncertain	33.5	31.8

Aircraft Utilization

In the 1982 survey it was found that top management is the primary user of corporate aircraft. Middle managers, professionals and sales staffs use company aircraft in more than half of the companies with fixed wing aircraft and one-third of those with helicopters. There was no comparable question asked in 1978.

Users of Aircraft	Fixed Wing (%)	Helicopter (%)
Top management	96.8	73.6
Middle management	76.3	63.7
Sales staff	56.0	36.3
Other professional staff	51.8	47.3
Other		
All approved employees	7.4	6.6
Customers and guests	4.2	2.2
Production, construction and line crews	2.2	4.4
Miscellaneous	1.4	1.6
Not stated	0.7	11.0

Connections vs Completed Trips

Helicopters were used mainly to fly personnel to areas serviced by other than commercial air carriers whole those who traveled on fixed wing aircraft could go either to an air carrier terminal or fly the complete trip. There was no comparable question asked in 1978.

	Fixed Wing (%)	Helicopter (%)
Connect with scheduled airline	5.3	7.3
Fly to locations served by air carriers	47.3	13.5
Fly to locations not served by air carriers	44.2	66.9
Other	3.3	12.4

Average Number of Passengers

	1978 Combined Helicopter and Fixed Wing (%)	1982 Fixed Wing (%)	1982 Helicopter (%)
1	1.2	0.8	9.3
2	15.4	11.8	30.2
3	37.9	37.7	30.8
4	26.3	28.9	13.2
5	12.2	11.6	2.2
6 or more	5.3	6.5	0.5
Not stated	1.7	2.7	13.7
Median Number of Passengers:	4.0	3.0	3.0

Since 1982 figures separate helicopter and fixed operations while the 1978 figures combine them, it is impossible to make a direct comparison of median passengers.

Company Flights—Monthly Average

The number of company flights per month is more than 20 for both fixed wing and helicopter aircraft for 1982. There was no comparable question asked in 1978.

Flights Per Month	Fixed Wing (%)	Helicopter (%)
Less than 10	10.5	8.2
10-14	14.7	11.0
15-19	1[illegible]	11.5
20 or more	5[illegible]	56.6
Not stated	0.3	12.6

Note: Point A to Point B = 1 flight

Average Stage Length

Stage Length	1978 %	1982 Fixed Wing (%)	1982 Helicopter (%)
Less than 100 miles	1.9	1.0	66.5
100–199 miles	10.7	9.4	20.3
200–299 miles	22.6	20.9	2.2
300–399 miles	23.6	21.3	0.5
400 or more miles	39.5	45.2	—
Not stated	1.7	2.3	10.4
Median Stage Length	359 miles	383 miles	68 miles

Stage lengths have remained fairly constant over the five year span. In 1982 helicopter and fixed wing stage lengths are separated. In 1978, they are not.

Elapsed Time, Door-to-Door

Elapsed Time	1978 %	1982 Fixed Wing (%)	1982 Helicopter (%)
Less than 1 hour	10.9	9.4	63.7
1 hour but less than 1½ hours	37.5	40.9	14.8
1½ hours but less than 2 hours	22.3	27.7	3.8
2 hours but less than 3 hours	12.8	14.8	2.2
3 hours or more	4.2	6.0	1.0
Not stated	12.3	1.1	14.3
Median Elapsed Time	86 minutes	89 minutes	50 minutes

Door-to-door flight times remained fairly constant in the five years between survey dates. There was no question aimed specifically at helicopter elapsed time in 1978.

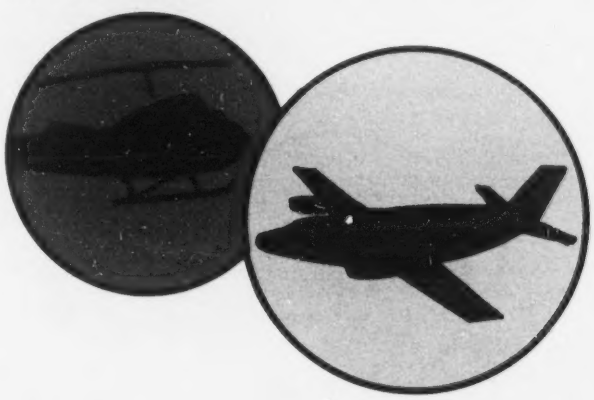
International Flights

	%
Currently used for international flights	52.7
Will be used internationally in the future	9.5
Neither of above	36.5
Not stated	1.3

Number of International Round Trip Flights Per Year

	%
1	7.3
2	13.5
3	10.9
4	10.3
5 to 6	14.2
7 to 10	16.1
11 to 15	11.1
16 to 20	4.7
21 or more	9.2
None	1.5
Not stated	1.1

More than half of the companies surveyed in 1982 used their aircraft for international travel. An additional 10 percent who plan to use their aircraft internationally in the future. The median number of international flights in 1982 was six per company. Trips to Canada and Mexico are included in international flight statistics. No international flight questions were asked in the 1978 survey.



Chief Pilot Profile

Job Responsibilities	1978 (%)	1982 (%)
Keep abreast of new developments in aviation	96.0	97.2
Approve bills/invoices	93.2	96.2
Decide or influence new aircraft purchases	94.7	95.3
Decide or influence new avionics purchases	94.8	94.3
Fly the aircraft for your present company	97.6	90.3
Supervise aviation staff	84.4	84.3
Decide or influence new purchases in cabin layout/design	77.8	82.2
Hire new pilots	82.1	81.4
Set flight plans	78.5	77.0
Maintain flight log	76.9	72.3
Set schedules	58.5	64.4
Hire new maintenance personnel	58.2	61.0
Select galley provisions	60.2	59.8
Responsible for transportation other than aircraft	23.8	29.6

A comparison of job duties for chief pilots in 1978 and 1982 shows little change with one possible exception. Figures indicate a slight trend away from strict aircraft flying duties with more concentration on management duties. In 1978, 97.6 percent of chief pilots flew aircraft. In 1982, this figure was down 7.3 percent to 90.3 percent.

Service Time as Chief Pilot

Number of Years	1978 (%)	1982 (%)
Less than 1 year	5.0	4.5
1-3 years	17.9	21.4
4-5 years	16.4	13.8
6-8 years	17.1	15.4
9-11 years	11.8	12.9
12-19 years		17.0
(12-14 years)	7.8	
(15 or more years)	23.4	
20 years or more		13.6
Not stated	0.6	1.5
Median Number of Years	7.8	8.0

The length of time as chief pilot has remained practically the same during the past five years. The median length of time as chief pilot increased only 0.2 year in the five-year period between surveys.

Primary Business

	1978 (%)	1982 (%)
Manufacturing	47.1	51.2
Finance (Banks, Credit Agencies, Real Estate Insurance)	8.5	9.7
Business and Professional Services	6.3	6.3
Transportation and Communications	7.8	5.3
Retail Trade	3.5	4.6
Wholesale Trade	4.3	4.5
Mining	4.0	4.5
Construction	5.5	4.5
Public Utilities	4.8	2.5
Agriculture, Forestry, Fisheries	3.3	1.0
Government, Education and Others	3.9	1.3
Not Stated	4.0	4.5

The industrial makeup of those companies that operate aircraft has not changed materially in the past five years.

Company Sales

Under $10 Million:	9.7
$10 Million to $99 Million:	26.3
$100 Million to $999 Million:	30.1
$1 Billion or more:	23.3

There were 23.3 percent of the contacted companies with sales of $1 billion or more in 1982, but there were also 9.7 percent whose sales totaled less than $10 million. This indicates that all aircraft operators are not on the high end of the economic scale. There were no comparative figures for 1978.

Employees in Company

	1978 (%)	1982 (%)
Less than 100 Employees	14.8	11.5
100-999 employees:	23.4	29.2
1,000 or more employees	58.3	56.9

1982 Aviation Department Personnel

	Pilots Median	Maintenance Personnel Median
Fixed Wing	3	2
Helicopter	2	1
Both	2	2

For 1978, the median combination was 1.8

Servicing

Locations for Servicing	Fixed Wing (%)	Heli-copter (%)
Fixed base operator	38.2	26.4
Own maintenance department	39.8	44.0
Manufacturer's service facility	18.5	13.2
Other	1.5	2.7
Not stated	2.0	13.7

Companies with helicopters are most likely to use their own maintenance department for servicing, while companies with fixed wing aircraft are likely to use a fixed base operator as their maintenance department. There was no comparable question asked in 1978.

Conclusion

The consistency of certain results from the two surveys taken at a five year interval from the same general audience of chief pilots leads to certain conclusions and answers some pertinent questions for which there is no statistical data available from any other medium.

The average number of passengers carried is between three and four. There are more than 20 flights per month on the average for each company and the average stage length is around 360 miles for fixed wing aircraft and 68 miles for helicopters. This flight, on average, takes one and one/half hours for fixed wing aircraft and 50 minutes for helicopters.

Slightly better than half of the companies that operate business aircraft operate jets and this figure remains constant. The amount of companies that operate turboprop aircraft are increasing. Operators of multi-engine and single-engine piston-powered aircraft are declining, while those operating helicopters are on the increase.

Job duties for the chief pilot show a slight increase in management and a decrease in flight duties.

Distribution

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NATIONAL BUSINESS AIRCRAFT ASSOCIATION, INC.

One Farragut Square, South
Washington, D.C. 20006
202/783-9000
Telex: 904186

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1983 — Section 1

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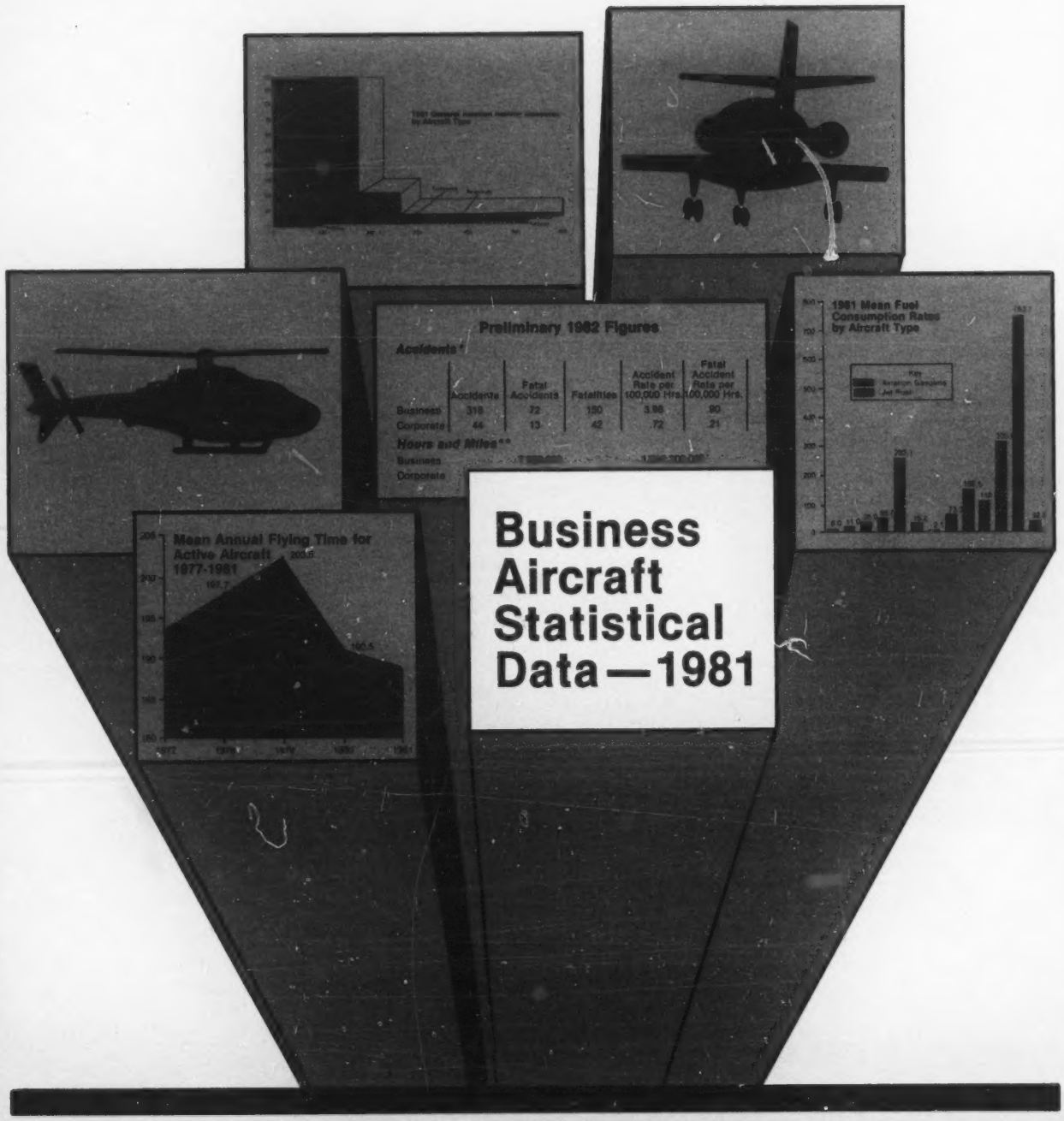

Business Aircraft Statistical Data—1981

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Summary 1981

- An estimated 40.7 million hours of flying time were logged by the 213,226 active general aviation aircraft in the U.S. fleet during 1981. These aircraft had a mean annual flight time per aircraft of 188.1 hours and represented about 83 percent of the registered general aviation fleet.
- Turboprop aircraft flew over 470 hours per aircraft during 1981, more than any other aircraft type. Moreover, twin engine turboprops with thirteen or more seats flew almost 1,000 hours per aircraft. In contrast, single engine piston powered aircraft averaged about 166 hours per aircraft during the year.
- The most common primary use of a general aviation aircraft was "personal" for an estimated 45 percent of the active fleet, followed by "business" for 22 percent of the fleet, and "corporate" for 9 percent of the fleet.
- Over 81 percent of the general aviation aircraft had two-way VHF communication equipment, 62 percent were equipped with 4096-code transponders, about 54 percent had at least one component of an instrument landing system, and 78 percent had some form of navigation equipment.
- An estimated 23 percent of general aviation aircraft had avionics equipment enabling them to fly above 18,000 feet in positive controlled airspace. Approximately 70 percent of the GA fleet could not fly above 12,500 feet due to avionics limitations alone.
- An estimated 41 percent of the active general aviation fleet flew by instrument flight rules (IFR) at some time during 1981.
- The general aviation aircraft fleet consumed an estimated 1,247 million gallons of fuel during 1981, 489 million gallons of aviation gasoline and 759 million gallons of jet fuel.

Introduction

The Federal Aviation Administration annually publishes a series of statistics that demonstrate how General Aviation fits into the overall aviation picture and what part business and corporate aviation plays in this picture. The latest published figures are those for 1981.

General Aviation is the dominant force in the sky with 98.5 percent of the civil air fleet, 83.5 percent of civil operations at FAA towered airports and 83.4 percent of the total hours flown by the U.S. civil air fleet.

General Aviation, by FAA definition, includes all aircraft operated under:

Part 91: General operating and flight rules
Part 123: Air travel clubs, using large aircraft
Part 133: Rotorcraft external load operations
Part 135: Air taxi operators and commercial operators of small aircraft
Part 137: Agricultural aircraft operations

The FAA has divided the aircraft that operate under these flight rules into ten "primary use" categories. By definition they are as follows:

Corporate: Any use of an aircraft by a corporation, company, or other organization for the purpose of transporting its employees and/or property, but not for compensation or hire, and employing professional flight personnel for the operation of the aircraft.

Business: Any use of an aircraft, not for compensation or hire, by an individual for the purpose of transportation required by a business in which he is engaged.

Personal: Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire.

Aerial Application: Consists of those activities that involve the discharge of materials from aircraft in flight.

Instructional: Any use of an aircraft for the purpose of formal instruction with the flight instructor aboard.

Commuter Carrier: A Part 135 operator that makes at least five scheduled round trips per week between two or more points or carries mail.

Air Taxi: Any use of an aircraft by the holder of an Air Taxi Operating Certificate.

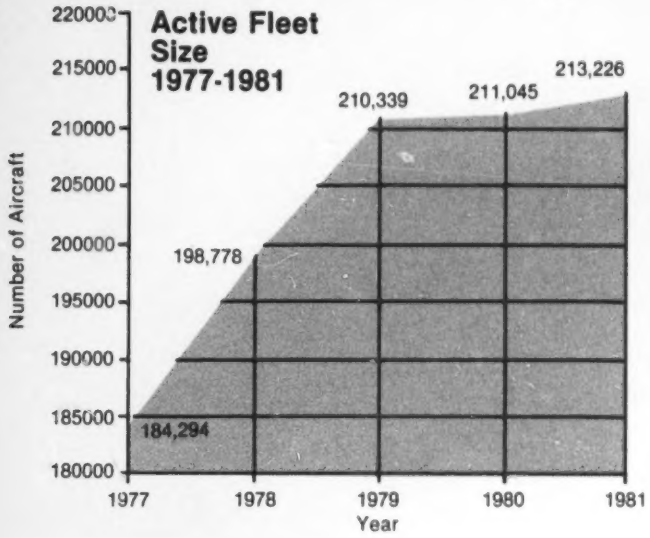
Industrial: Use of an aircraft for specialized work allied with industrial activity — pipeline patrol, survey, advertising, photography, helicopter hoist.

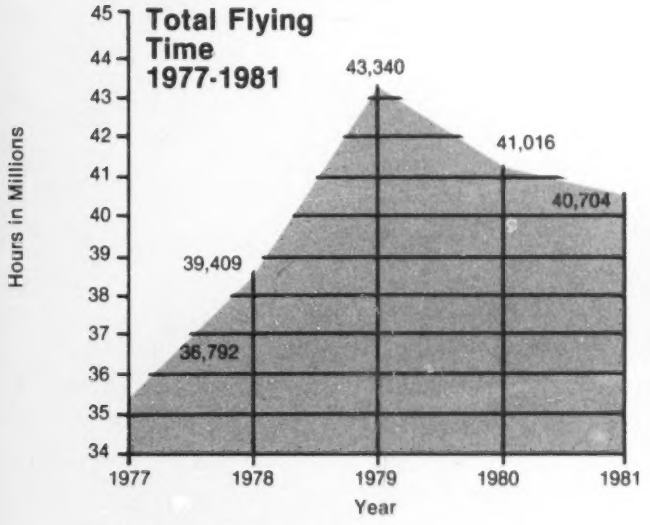
Rental: Aircraft used primarily for short periods by airmen on which a fee is paid.

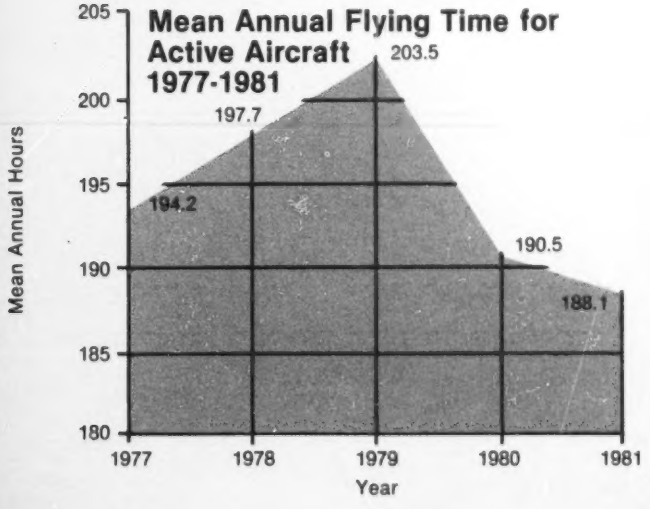
Other: Research and development, marketing and sales demonstration, sport parachuting, etc.

NBAA voting members are in the corporate and business category.

General Aviation Trends

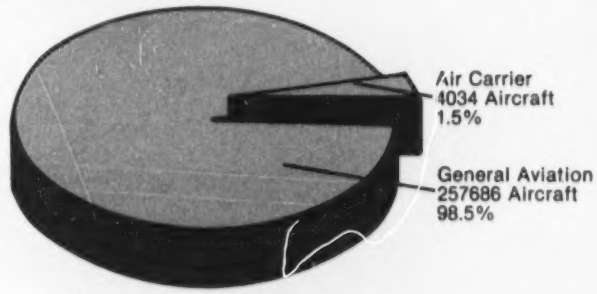




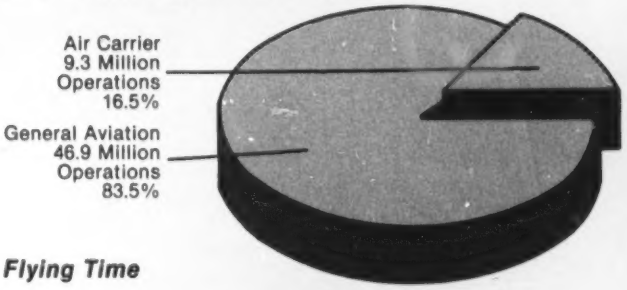


Contrast of General Aviation and Air Carrier Activity in 1981

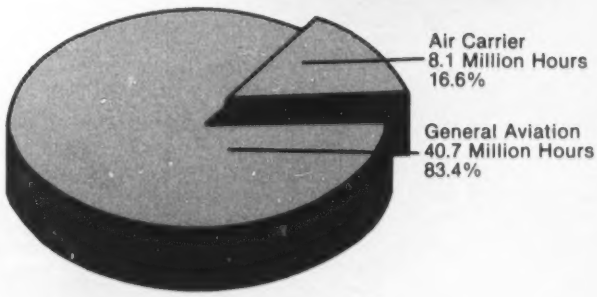
US Civil Air Fleet



Civil Operations at FAA Towered Airports



Flying Time



Overall Trend

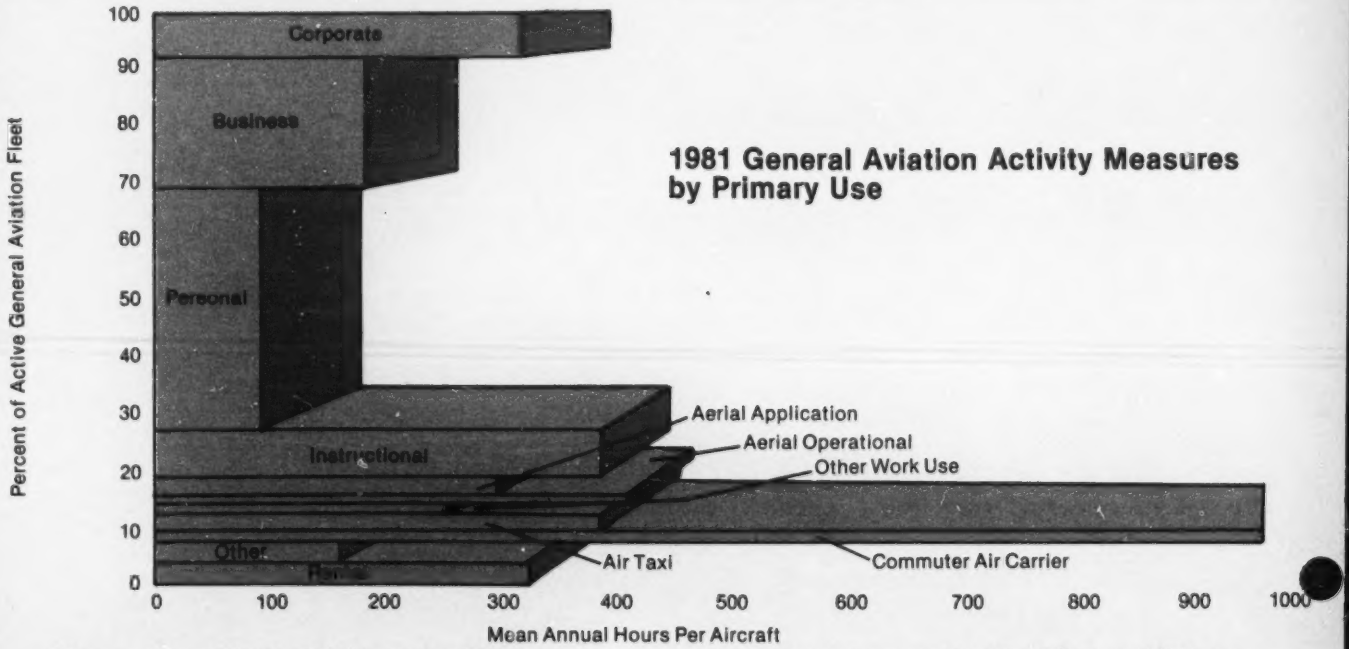
Results of the General Aviation Activity and Avionics Survey at the national level revealed that during 1981 an estimated 40.7 million hours of flying time were logged by the 213,226 active general aviation aircraft in the U.S. fleet, yielding a mean annual flight time per aircraft of 188.1 hours. These active aircraft comprised 83 percent of the registered general aviation fleet. The statistics for 1981 showed a 0.8 percent decrease in flying hours, a 1.0 percent increase in the number of active aircraft in the general aviation fleet, and a 1.8 percent decrease in mean hours per aircraft over the comparable figures for 1980. Activity estimates for 1981 indicate an overall slowing in the growth of general aviation activity. The decrease seen in hours flown can most likely be attributed to the decline in the economy and rising fuel and aircraft operational costs. Other general aviation activity measures showed similar trends. For example, general aviation operations at FAA towered airports decreased by 10.4% from 1980 to 1981. Some of this decrease may be attributable to the air traffic controller strike which occurred during 1981. On August 3, about 11,000 controllers failed to report to work and were subsequently fired. The resultant reduced work force caused the FAA to institute certain constraints on users of the National Airspace System to assure safe and efficient operations. Reductions in traffic levels due to restrictions imposed by the FAA cannot be measured precisely, because of the effects of other variables which impact traffic volumes.

General Aviation Trends

1981 — Aircraft Units and Hours Flown — By Primary Use

Units
Hours

Aircraft Type	Total Active	Corporate	Business	Total Corporate Business	Personal	Instructional
Fixed Wing						
Single Engine—Piston						
Units	167,898	5,646	34,918	40,564	88,525	13,746
Hours	27,692,086	1,268,371	5,405,829	6,674,000	7,665,278	5,264,447
Twin Engine & Other Piston						
Units	25,470	6,442	10,295	16,737	2,779	620
Hours	6,418,000	2,058,000	1,876,000	3,935,000	305,000	181,000
Total Piston						
Units	193,370	12,089	45,214	57,303	91,305	14,367
Hours	34,085,659	3,276,502	7,245,372	10,522,000	7,959,992	5,440,634
Turboprop						
Units	4,660	2,602	962	3,564	67	20
Hours	1,387,387	994,107	241,001	1,235,108	956	0
Turbojet						
Units	3,171	2,257	522	2,779	11	0
Hours	1,387,387	994,107	241,001	1,235,108	965	0
Total Fixed Wing						
Units	201,201	16,950	46,699	63,649	91,384	14,388
Hours	37,627,572	5,260,589	7,857,257	13,117,846	7,978,749	5,443,483
Total Rotorcraft						
Units	6,974	1,525	950	2,475	666	254
Hours	2,684,911	936,548	278,517	1,215,000	33,487	79,772
Total Aircraft						
Units	213,226	18,582	47,716	66,298	95,510	14,993
Hours	40,703,768	6,189,787	8,122,340	14,312,127	8,241,233	5,596,798

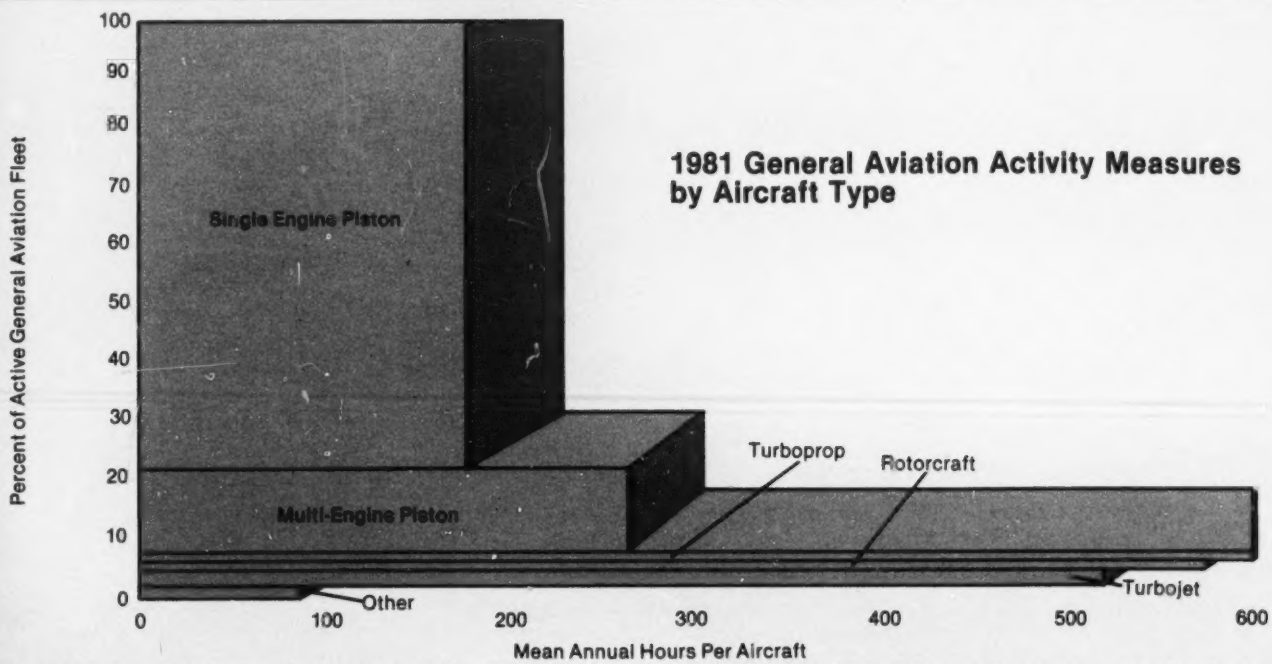


1981 General Aviation Activity Measures by Primary Use

Primary uses were differentiated by their activity characteristics. Aircraft used as commuter air carriers, air taxis and for aerial observation purposes showed high individual usage with mean hours per aircraft of 956.7, and 388.7, and 414.3, respectively. General aviation aircraft were used most commonly for personal and business purposes, representing 45

Totals do not add up because of survey differences.

Aerial Application	Aerial Observation	Other Work	Commuter Carrier	Air Taxi	Rental	Other
6,348	2,171	936	160	3,055	9,757	2,632
1,986,631	917,000	193,247	130,285	1,107,157	3,538,810	308,426
409	449	33	595	2,841	301	699
62,000	169,000	13,000	490,000	1,093,000	60,000	151,000
6,758	2,621	970	755	5,897	10,059	3,331
2,060,388	1,089,341	204,904	596,325	2,196,068	3,657,215	438,294
67	5	0	232	427	49	225
0	5,259	3,116	810	68,313	21,973	50,167
0	10	4	18	136	18	190
0	5,259	3,116	810	68,313	21,973	50,176
6,825	2,636	974	1,005	6,461	10,127	3,747
2,099,477	1,096,709	206,988	967,492	2,436,819	21,973	50,176
1,150	657	280	17	732	28	711
346,866	295,841	159,960	9,672	372,491	4,062	205,827
7,976	3,384	1,491	1,023	7,226	10,585	4,741
2,447,166	1,401,905	368,608	978,741	2,808,784	3,768,116	769,407



1981 General Aviation Activity Measures by Aircraft Type

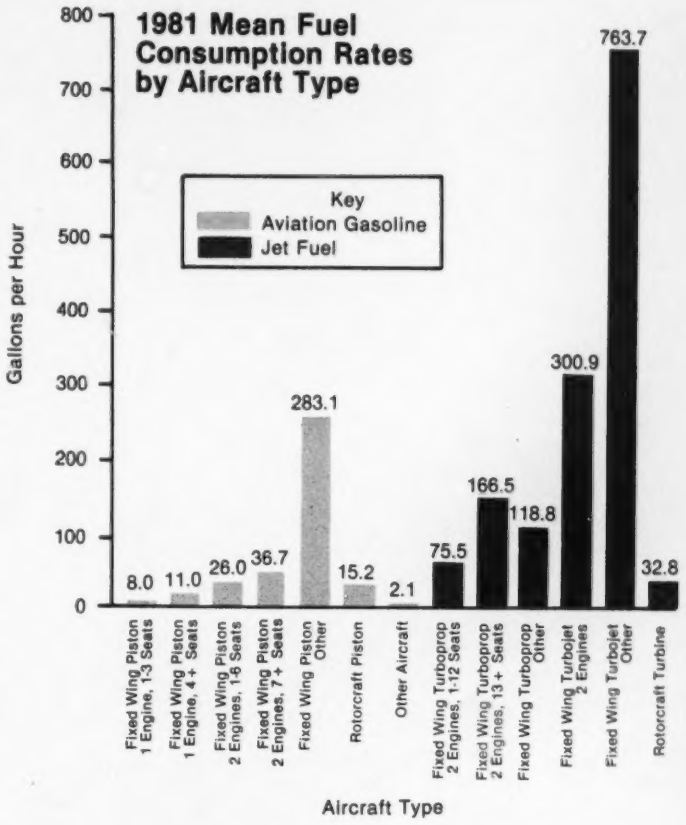
and 22 percent of the active fleet. While total hours flown for the general aviation fleet decreased by 0.8% from 1980 to 1981, flying time for aerial application, corporate, and commuter air carrier aircraft increased by 19.7%, 16.1%, and 1.2%, respectively. These were the only categories for which flying time increased from 1980 to 1981.

Fuel

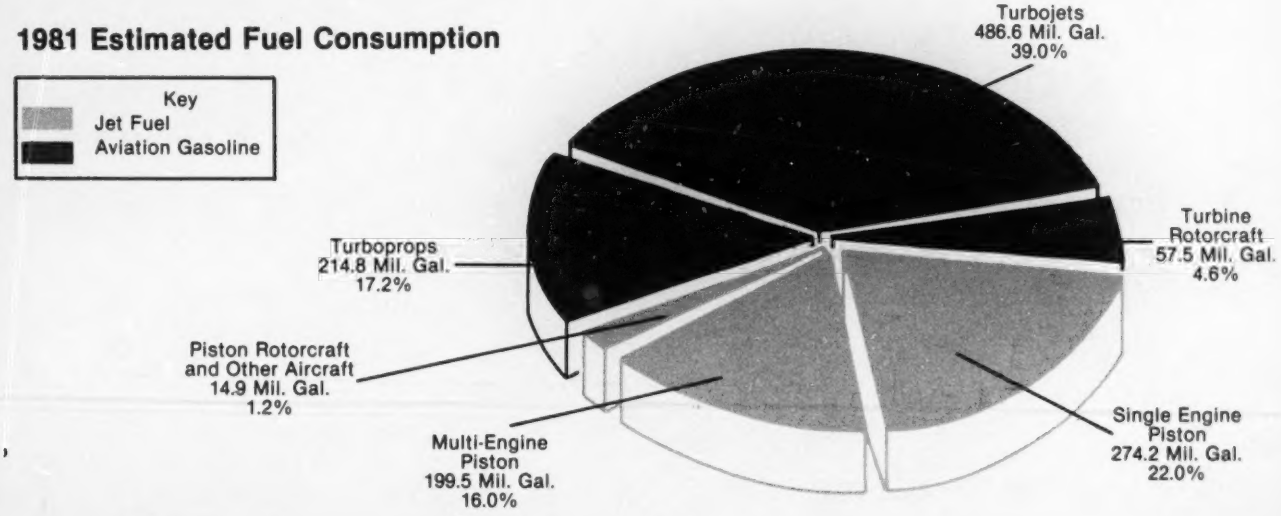
General Aviation Fuel Consumption by Aircraft Type—1981

Aircraft Type	Mean Rate GPH	Estimated Fuel Use (mil gal)
Fixed Wing		
Piston		
1 Eng 1-3 Seats	8.01	81.61
1 Eng 4+ Seats	11.00	192.56
Total 1 Eng	9.90	274.17
2 Eng 1-6 Seats	26.01	93.81
2 Eng 7+ Seats	35.72	98.67
Total 2 Eng	30.22	192.48
Other Piston	283.08	6.99
Total Piston	13.90	473.64
Turboprop		
2 Eng 1-12 Seats	75.51	117.01
2 Eng 13+ Seats	166.52	90.33
Total 2 Eng	99.11	207.34
Other Turboprop	118.81	7.43
Total Turboprop	99.68	214.77
Turbojet		
2 Eng	300.89	372.52
Other	763.70	114.03
Total Turbojet	350.70	486.55
Total Fixed Wing	**31.23**	**1174.96**
Rotorcraft		
Piston	15.17	14.12
Turbine	32.76	57.47
Total Rotorcraft	**26.66**	**71.59**
Other	**2.09**	**0.82**
Total Aircraft	**30.65**	**1247.37**
Total Jet Fuel	143.27	758.79
Total Aviation Gasoline	13.80	488.58

1981 Mean Fuel Consumption Rates by Aircraft Type



1981 Estimated Fuel Consumption



GA Fuel Consumed

The general aviation aircraft fleet consumed an estimated 1,247 million gallons of fuel during 1981, 489 million gallons of aviation gasoline and 759 million gallons of jet fuel. Turbojet and turboprop engines consume fuel at much higher rates than piston engines. In fact, turbojets with more than 2 engines consume about 765 gallons of jet fuel an hour on the average. The high rates account for turbojets burning 39 percent of all fuel consumed in 1981. Piston aircraft account for 38 percent of the fuel consumed in 1981 due to their high representation in the general aviation fleet.

Avionics Use

General Aviation Avionics Equipment by Primary Use — 1981

	VHF Communications				Transponder Equipment			ILS Receiving Equipment				
	360 Ch	720 Ch	2+ Sys	No Comm	4096 Code	ALT Enc	No Trans	Loc	Mker Bec	Glide Slope	MLS	No ILS
Corporate												
Estimated Population	5,476	14,196	14,673	621	17,416	14,058	1,692	15,803	15,553	14,940	258	2,916
Estimated % of Use	29.5	76.4	79.0	3.3	93.7	75.7	9.1	85.1	83.7	80.4	1.4	15.7
Business												
Estimated Population	21,148	30,680	37,374	1,249	44,369	27,851	4,378	39,040	38,578	35,613	322	8,730
Estimated % of Use	44.3	64.3	78.3	2.6	93.0	58.4	9.2	81.8	80.9	74.6	0.7	18.3
Total General Aviation												
Estimated Population	115,677	108,854	125,113	47,355	159,709	76,396	97,929	134,402	123,108	108,919	979	118,301
Estimated % of Pop.	44.9	42.2	48.6	18.4	62.0	29.6	38.0	52.2	47.8	42.3	0.4	45.9

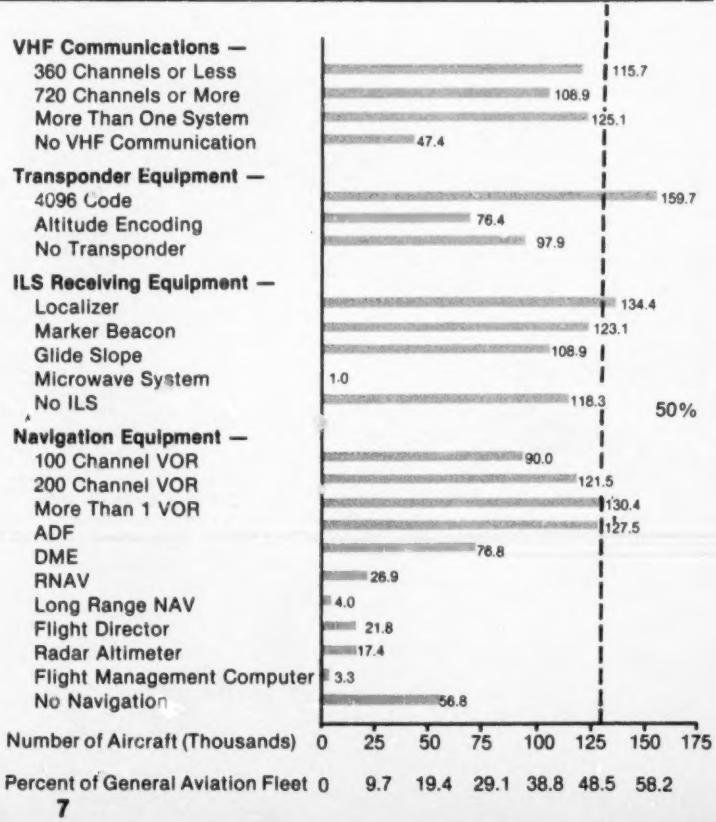
Navigation Equipment	VOR 100 Ch	VOR 200 Ch	2+ Rcvr	ADF	DME	RNAV	LRNAV	Flt Dir	Radar Alt	Flt Mgt Comptr	No NAVEQ
Corporate											
Estimated Population	4,808	13,967	15,483	16,299	14,223	7,925	1,920	8,125	7,745	1,188	814
Estimated % of Use	25.9	75.2	83.3	87.7	76.5	42.7	10.3	43.7	41.7	6.4	4.4
Business											
Estimated Population	17,271	33,627	39,530	39,625	29,395	10,527	874	8,125	5,463	1,208	1,200
Estimated % of Use	36.2	70.5	82.8	83.0	61.6	22.1	1.8	17.0	11.5	2.5	2.5
Total General Aviation											
Estimated Population	90,019	121,472	130,428	127,477	74,822	26,858	4,013	21,810	17,416	3,324	55,833
Estimated % of Population	34.9	47.1	50.6	49.5	29.0	10.4	1.6	8.5	6.8	1.3	21.7

Note: Column summations may differ from printed totals due to estimation procedures.

More Sophisticated Avionics

Over 81 percent of general aviation aircraft have two-way VHF communications, 62 percent are equipped with 4096-code transponders, 54 percent have at least one component of an instrument landing system, and almost 78 percent have some form of navigation equipment. The general aviation fleet is becoming more sophisticated in terms of its avionics equipment. Within two-way communications, for example, there was a significant shift from 360 channel to 720 channel equipment from 1978 to 1981. Likewise with VOR receivers there was a shift from 100 channel to 200 channel equipment. The proportion of the general aviation fleet with transponders increased from 53.3 percent in 1978 to 62.0 percent in 1981, and the proportion with at least one part of an ILS increased from 51.0 percent to 54.1 percent. The proportion of aircraft having two or more communications systems and the proportion with two or more VOR receivers increased by more than five percent from 1978 to 1981.

Almost all active twin engine piston aircraft, turboprops, and turbojets flew IFR at some time during 1981 and were equipped with transponders. Although a much lower proportion of the active single engine piston aircraft and rotorcraft in the fleet flew IFR during the year, almost all that did were equipped with transponders. In fact, almost 100% of IFR flying was performed by aircraft equipped with transponders.



Status

Corporate/Business Registry Shows Increase

	Total Active		Corporate		Business		Total Corporate Business		Corp Bus
	1980	1981	1980	1981	1980	1981	1980	1981	Adjust.
Single Engine—Piston	168,435	167,898	3,202	5,646	38,374	34,918	41,576	40,564	−1,012
Twin Engine and Other Piston	24,578	25,472	5,642	6,443	9,342	10,296	14,984	16,739	+1,755
Total Piston	193,014	193,370	8,845	12,089	47,717	45,214	56,562	57,303	+ 741
Turboprop	4,030	4,660	2,600	2,602	420	962	3,020	3,564	+ 544
Turbojet	2,992	3,171	2,350	2,257	110	522	2,460	2,779	+319
Total Fixed Wing	200,097	201,201	13,796	16,950	48,248	46,699	62,044	63,649	+1,605
Total Rotorcraft	6,001	6,974	947	1,525	749	950	1,696	2,475	+ 779
Total Aircraft	211,045	213,226	14,860	18,582	49,391	47,716	64,251	66,298	+2,047

In the year 1981 where total shipments of general aviation aircraft produced in the U.S. was 2,420 units below that of 1980, the number of aircraft with the "primary use" listing of "corporate" or "business" increased by 2,047 units. This was a year when the economy first started to wear down, and it was the year of the Patco strike and the initiation of the General Aviation Reservation (GAR) system. Both of these factors attributed to the decline of general aviation shipments. The increase in the number of those aircraft categorized as corporate or business can partially be attributed to the normal growth patterns of business aircraft and partially to a change to the "business" and "corporate" categories from "personal" and other categories.

Total Corporate/Business Hours

	Hours — 1982 (estimate)
Corporate	6,080,000
Business	7,980,000
Total	14,060,000
	Hours — 1981
Corporate	6,189,787
Business	8,122,340
Total	14,312,127
	Hours — 1980
Corporate	5,331,000
Business	8,433,000
Total	13,764,000

Hours flown were increased by those flying corporate/business aircraft between 1980 and 1981 by some 0.5 million hours despite an incipient decline in the economy and an air traffic system that was forced to operate below capacity. Estimates for 1982 show that business and corporate flying hours held relatively the same as 1981 despite a deep slide in the economy.

Preliminary 1982 Figures

*Accidents**

	Accidents	Fatal Accidents	Fatalities	Accident Rate per 100,000 Hrs.	Fatal Accident Rate per 100,000 Hrs.
Business	318	72	150	3.98	.90
Corporate	44	13	42	.72	.21

*Hours and Miles***

Business	7,980,000	1,069,300,000
Corporate	6,080,000	1,240,300,000
	14,060,000 Hours	2,309,600,000 Miles

* Preliminary NTSB Figures
** Preliminary FAA Figures

Preliminary figures for 1982 from both the FAA and the National Transportation Safety Board (NTSB) indicate that flying hours remained relatively stable and accident rates stayed relatively low.

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NATIONAL BUSINESS AIRCRAFT ASSOCIATION, INC.

One Farragut Square, South
Washington, D.C. 20006
202/783-9000
Telex: 904186

member of

international business aviation council, ltd.